UHDAS:
Raising the Profile of Ocean Currents

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Terminology:

UHDAS:

University of **H**awaii **D**ata **A**cquisition **S**ystem

ADCP:

Acoustic **D**oppler **C**urrent **P**rofiler

UHDAS:
Raising the Profile of Ocean Currents

Presently installed on about 20 ships

including 2 NOAA ships

Now funded to extend coverage to NOAA ships

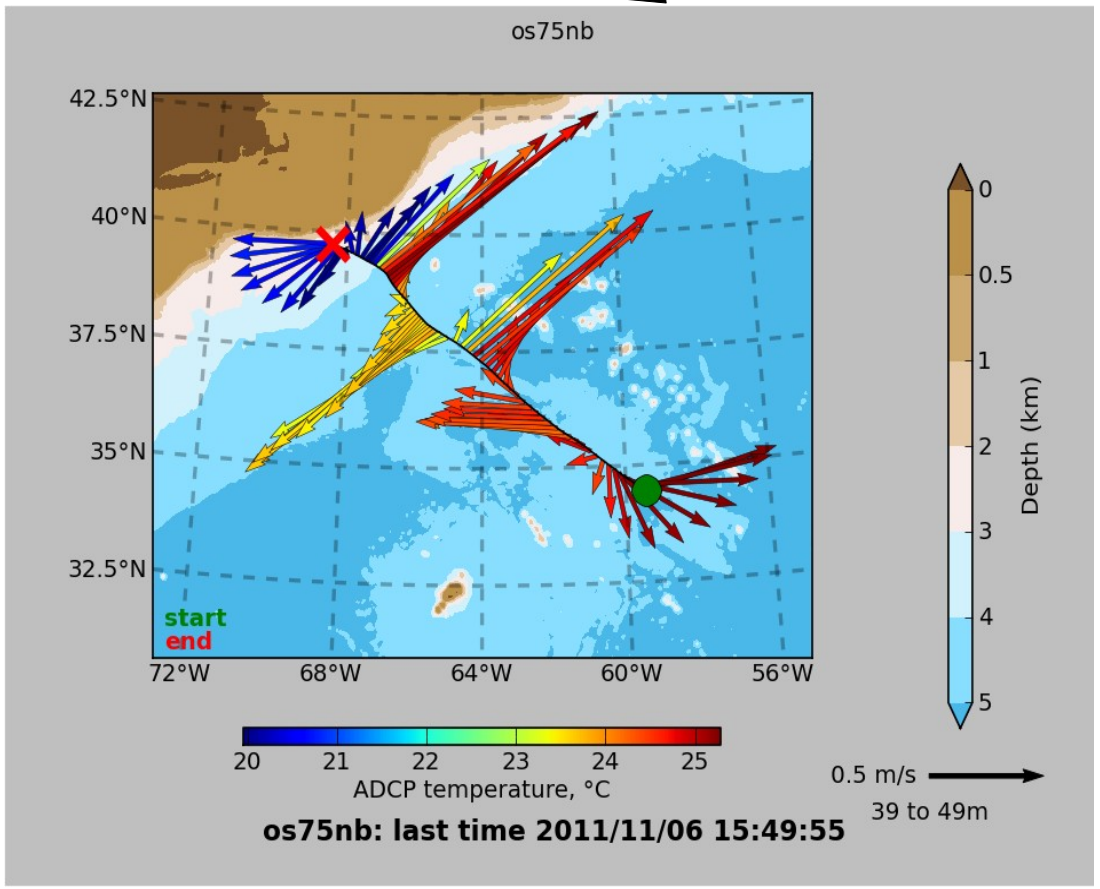
5 ships per year, starting with the Nancy Foster

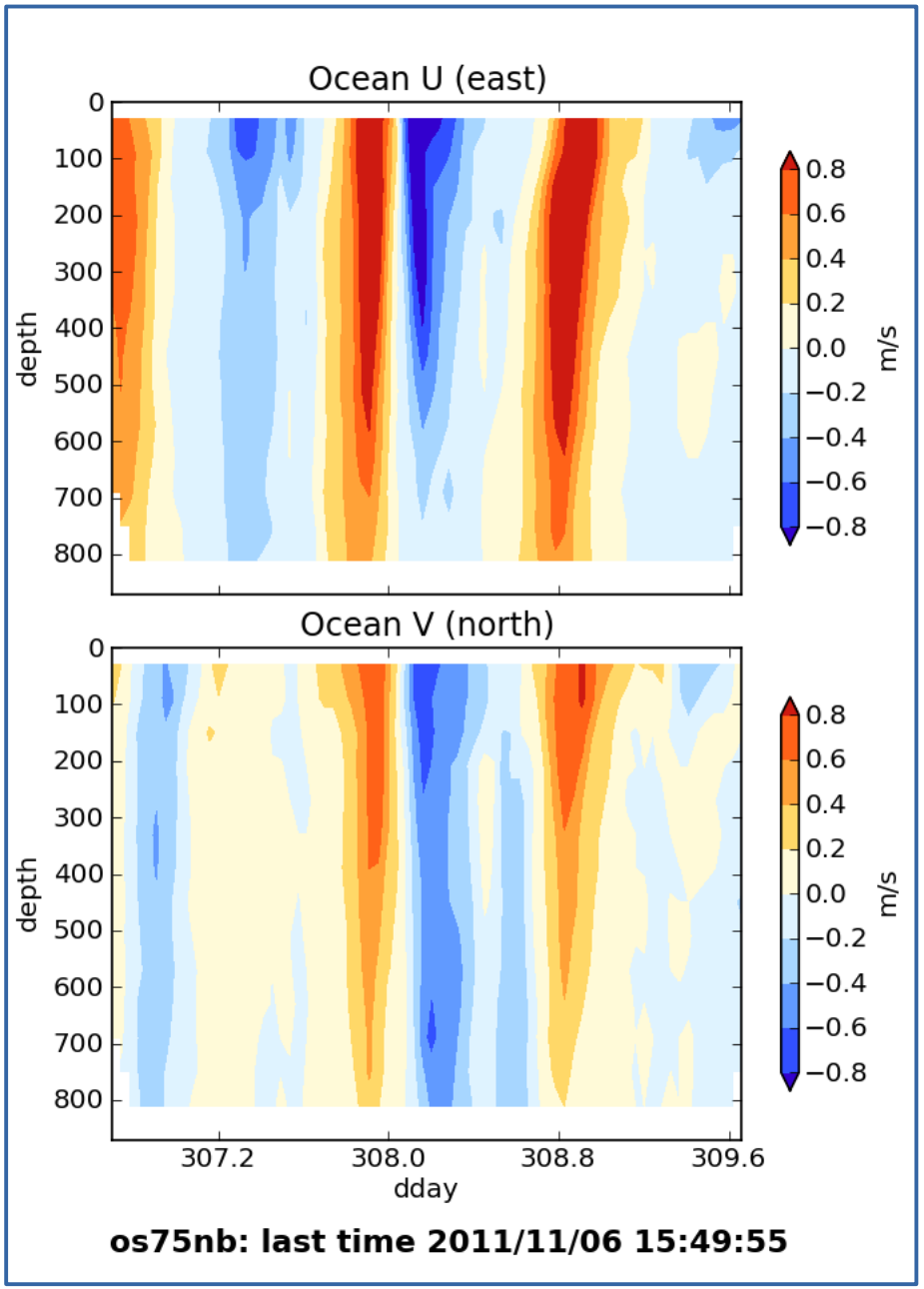
- Requested by science and operations
- Nancy Foster ADCP=Excellent installation
- Ship Operations: Obvious competence

CODAS Processing

Time, ADCP, Position, Attitude

primitive (raw) data





What does UHDAS do?

Performs these tasks:

- Data acquisition
- Data processing (create ocean currents)
- Generates data products (multiple formats)
- Creates tools and components for monitoring

(at sea and on shore)

What are our goals?

- Enhance the utility and visibility of ADCP data
- Provide viable ocean current data at sea
- Collect as much ADCP data as possible (within science mission)
- Happy Scientists
- Happy Techs
- Happy Managers (data, ops, ship)

What are our goals?

- Data should be useful for science and operations at sea
- Data should be as close to "final" as possible (for an automated system)
- Require minimal post-processing for science
- Reprocessing on multiple operating systems (Linux, Mac, Windows)

Benefits of UHDAS

Real-time accessible data for

- Science at sea, eg
  - larval recruitment and dispersion
  - context in habitat
  - drifters
- Operations
  - ROV deployment
  - CTD wire angle
  - mooring deployment

Benefits of UHDAS

- Reliable, simple interface for Techs
- Remote monitoring by ADCP guru
- Long-term usefulness:
  - Open source software
  - Existing path to NODC
- Open communication with scientists and techs

Examples

At-sea web page:

http://currents.soest.hawaii.edu/uhdas_fromships/kilomoana_atseaweb/index.html

Table of live ships reporting:

http://currents.soest.hawaii.edu/uhdas_fromships.html

Documentation:

http://currents.soest.hawaii.edu/docs/adcp_doc/index.html

Concerns

Interaction with other sonars

- ADCP data requires lots of pings (averaged)
- UHDAS edits out acoustic interference but

only if asynchronous

- Synchronized pinging “can work” but

may not be a perfect solution

Summary

- UHDAS is joining the NOAA fleet
- Nancy Foster is a perfect “first new ship”
- Goals
  - Enhance the utility of ADCP data within the framework of existing needs
  - Play well together
  - Successful cruises, good data, happy participants